

In the claims:

1. (original) An image-capture circuit, comprising:
a digitizer operable to receive a serial analog color signal having a predetermined sequence of color components, the digitizer having:
a plurality of channels each operable to process a respective color component; and
an analog-to-digital converter operable to sequentially receive and digitize the color components; and
a controller coupled to the digitizer and operable to couple each of the channels to the analog to digital converter in the predetermined sequence.
2. (original) The image-capture circuit of claim 1, wherein the digitizer further includes a multiplexer disposed between the channels and the analog-to-digital converter, and the controller is further operable to cause the multiplexer to couple the channels to the analog-to-digital converter in the predetermined sequence.
3. (original) The image-capture circuit of claim 1, wherein each input channel is operable to modify the respective color component that it processes.
4. (original) The image-capture circuit of claim 3, wherein each input channel is further operable to amplify the respective color component.
5. (original) The image-capture circuit of claim 3, wherein each input channel is further operable to offset the respective color component.
6. (original) The image-capture circuit of claim 1, wherein the controller is further operable to control the digitizer such that the first input channel processes a first color component of the received analog-color signal, the second input channel processes a second color component of the received analog-color signal, and continuing until each color component is individually processed.

7. (original) The image-capture circuit of claim 1, wherein the digitizer is operable to receive the serial analog color signal in the plurality of channels.

8. (original) The image-capture circuit of claim 1, wherein the digitizer is further operable to receive a parallel analog-color signal having color components, each channel of the digitizer being operable to receive a respective color component.

9. (original) The image-capture circuit of claim 1, wherein the controller and the digitizer are formed on a single chip.

10. (original) An image-capture circuit, comprising:
a digitizer operable to receive a serial analog color signal having a predetermined sequence of color components, the digitizer having:
a plurality of signal modification channels, one of the channels operable to sequentially modify each of the color components according to a corresponding modification parameter; and
an analog-to-digital converter operable to sequentially receive and digitize the modified color components; and
a controller coupled to the digitizer and operable to sequentially update the modification parameter to correspond to the color component that the channel is modifying.

11. (original) The image-capture circuit of claim 10, wherein the modification parameter includes an amplification.

12. (original) The image-capture circuit of claim 10, wherein the modification parameter includes an offset.

13. (original) A scanner comprising:
a sensor head operable to generate a serial analog-color signal having a predetermined sequence of color components responsive to a scan of an image;
an image-capture circuit, including:
a digitizer operable to receive the serial analog color signal and having:
a plurality of channels each operable to process a respective color component; and
an analog-to-digital converter operable to sequentially receive and digitize the color components; and
a controller coupled to the digitizer and operable to couple each of the channels to the analog to digital converter in the predetermined sequence.

14. (original) The scanner of claim 13, wherein each input channel is coupled to the serial analog-color signal.

15. (original) The scanner of claim 13, wherein the controller is further operable to synchronize generation of a first color component by the sensor head with the processing of the first color component by a first channel, generation of a second color component by the sensor head with the processing of the second color by a second channel, and continuing until each color component has been generated and processed by a different channel

16. (original) The scanner of claim 13, wherein the color components include red, green, and blue.

17. (original) The scanner of claim 13, wherein the scan head is a CIS type.

18. (original) A scanner comprising:
a sensor head operable to generate a serial analog-color signal having a predetermined sequence of color components responsive to a scan of an image;
an image-capture circuit, including:
a digitizer operable to receive the serial analog color signal and having:

a plurality of signal modification channels, one of the channels operable to sequentially modify each of the color components according to a corresponding modification parameter; and

an analog-to-digital converter operable to sequentially receive and digitize the modified color components; and

a controller coupled to the digitizer and operable to sequentially update the modification parameter to correspond to the color component that the channel is modifying.

19. (original) A method for digitizing a serial analog-color signal having a predetermined sequence of multiple color components, the method comprising;

modifying a first one of the components with a first channel and digitizing the modified component during a first time period; and

modifying a second one of the components with a second channel and digitizing the modified component during a second time period that is separate from the first time period.

20. (original) A method for digitizing a serial analog-color signal having a predetermined sequence of multiple color components, the method comprising;

setting a modification parameter of a selected one of a plurality of channels to first predetermined level, modifying a first one of the color components with the channel, and digitizing the modified first component during a first time period; and

setting the modification parameter of the channel to a second predetermined level, modifying a second one of the color components with the channel, and digitizing the modified second component during a second period of time that is separate from the first time.

21. (new) An image-capture circuit, comprising:

a plurality of channels each operable to receive an analog color signal including a predetermined sequence of color components and to process a respective one of the color components;

an analog-to-digital converter operable to sequentially receive and digitize the processed color components from the channels; and

a controller coupled to the digitizer and operable to couple the channels to the analog-to-digital converter in the predetermined sequence.

22. (new) A scanner, comprising:

a sensor head operable to scan an image and to generate an analog color signal that represents the image, the signal having a predetermined sequence of color components;

a plurality of channels each operable to receive the analog color signal from the sensor head and to process a respective one of the color components;

an analog-to-digital converter operable to sequentially receive and digitize the processed color components from the channels; and

a controller coupled to the digitizer and operable to couple the channels to the analog-to-digital converter in the predetermined sequence.

23. (new) A method for digitizing an analog color signal having a predetermined sequence of color components, the method comprising:

receiving the analog color signal with first and second channels;

modifying a first one of the components with the first channel and digitizing the modified first component during a first time period; and

modifying a second one of the components with the second channel and digitizing the second modified component during a second time period that is separate from the first time period.

24. (new) The method of claim 23, further comprising:

receiving the analog color signal with a third channel; and

modifying a third one of the components with the third channel and digitizing the modified third component during a third time period that is separate from the first and second time periods.